



## Fact Sheet

Aquifer Protection Permit 102181  
Place ID #1784, LTF # 43063  
SIGNIFICANT AMENDMENT  
Arizona-American Water Company  
Wishing Well WRF

The Arizona Department of Environmental Quality (ADEQ) proposes to issue **an amendment** to the Aquifer Protection Permit (APP) for the subject facility that covers the life of the facility, including operational, closure, and post-closure periods unless suspended or revoked pursuant to A.A.C. R18-9-A213. This document gives pertinent information concerning the issuance of the permit. The requirements contained in this permit will allow the permittee to comply with the two key requirements of the Aquifer Protection Program: 1) meet Aquifer Water Quality Standards (AWQS) at the Point of Compliance (POC); and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). The purpose of BADCT is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., local subsurface geology) to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer, or to keep pollutants from reaching the aquifer.

### I. FACILITY INFORMATION

#### Name and Location

Name of Permittee:	Arizona-American Water Company
Mailing Address:	19820 North 7 <sup>th</sup> Street, Suite #201 Phoenix, Arizona 85024
Facility Name and Location:	Wishing Well Water Reclamation Facility (WRF) 5869 Wishing Well Drive Fort Mohave, Arizona 86426

#### Regulatory Status

Listed in the table below are various licenses issued by the Department to the permittee (or previous owners) pertaining to the facility:

Type of license	Issued to:	License identifier	Effective date
Notice of Disposal (NOD)	Desert Lakes Development, LP	n/a	3/28/1989
Wastewater Reuse Permit	Sorenson Utility Company	R-0068-08	11/14/1989
Approval to Construct	Sorenson Utility Company	19900231	5/7/1990
Aquifer Protection Permit (original APP)	Sorenson Utility Company	P-102181	12/14/1992
Wastewater Reuse Permit (renewal)	Sorenson Utility Company	R102181	2/22/1995

APP Modification (to delete groundwater monitoring, make monitoring adjustments, and delete the water balance)	Sorenson Utility Company	P-102181	5/23/1996
APP Modification (to increase treatment capacity to 1.0 mgd, and add denitrification, rapid infiltration basins, and groundwater monitoring)	Sorenson Utility Company	P-102181	9/17/1997
Wastewater Reuse Permit (renewal and transfer of ownership from Sorenson Utility Company to Citizens Utilities Mohave Water Division)	Citizens Utilities Mohave Water Division	R102181	3/31/2000
APP Modification (to transfer permit ownership from Sorenson Utility Company to Citizens Utilities Mohave Water Division)	Citizens Utilities Mohave Water Division	P-102181	6/16/2000
Wastewater Reuse Permit transfer of ownership from Citizens Utilities to Arizona-American Water Company	Arizona-American Water Company	P-102181	1/15/2002
APP Modification (to transfer permit ownership from Citizens Utilities to Arizona-American Water Company)	Arizona-American Water Company	P-102181	3/1/2002
Significant APP Amendment (to decrease treatment capacity to 0.5 mgd, remove denitrification and rapid infiltration basins, delete groundwater monitoring requirements, and classify for Class B reclaimed water)	Arizona-American Water Company	P-102181	3/16/2004
Significant APP Amendment (to delete reference to an effluent storage basin, change the POC, and update the financial assurance mechanism)	Arizona-American Water Company	P-102181	10/23/2007

An application for a significant Amendment was received on January 23, 2007 for the improvements associated with the Wishing Well Water Reclamation Facility. The improvements include addition of a new head works including a mechanical screen and grit removal basin. The existing extended aeration basin will be equipped with new air drop legs and the existing aeration system will be converted to a fine bubble aeration system, upgrades also include the addition of three new clarifiers, conversion of an existing clarifier and pre-chlorination basin to sludge holding, addition of a sludge dewatering unit and polymer feed facilities, modifications to existing chlorine feed facilities, and the replacement of the existing standby generator with a 400-kilowatt (KW) generator.

### **Facility Description**

Arizona-American Water Company is authorized to operate a 0.5 million gallons per day (mgd) extended aeration wastewater reclamation facility (WRF). The treatment process consists of headworks which include a grit basin and fine screen, Parshall flume flow meter, aeration basin, secondary clarification, multi-media filters, chlorine contact basin, clear well with pump station, sludge holding tank, and sludge dewatering unit. Effluent shall meet the Class B reclaimed water standards as required by A.A.C. R18-11-306 for use under a valid reclaimed water permit as per A.A.C. R18-9, Articles 6 and 7. All effluent is delivered off-site for beneficial purposes under a valid reclaimed water permit. All the sludge including screenings, grit, and scum will be dewatered at onsite prior to transportation for off-site disposal in accordance with State and Federal regulations. The effluent is monitored at the effluent pump station prior to delivery to the reuse site. The WRF is designed and constructed according to plans approved by the Arizona Department of Environmental Quality (ADEQ) Aquifer Protection Permit (APP) and Reuse Unit.

In addition to the APP conditions pertaining to treatment and disposal of sewage sludge, the permittee must also comply with the requirements for any sewage sludge disposal, use, and transportation in 40 Code of Federal Regulations (CFR) Part 503 and 18 A.A.C. Ch. 9, Art. 10.

### **Amendment Description**

This amendment is to improve the existing WRF treatment processes to maintain the permitted plant capacity of 0.5 mgd. The improvements will include the following:

1. Addition of new headworks including a mechanical screen and grit removal basin.
2. The existing extended aeration basin will be equipped with new air drop legs and conversion of the existing aeration system to fine bubble aeration.
3. Replacement of the existing two blowers in the existing blower building with two new blowers.
4. Addition of three new clarifiers.
5. Conversion of existing clarifier and prechlorination basin to sludge holding tank.
6. Modifications to existing chlorine feed facilities.
7. Upgrade of electrical service to accommodate build-out expansion load of 1000A.
8. Addition of a sludge dewatering unit and polymer feed facilities.
9. Replacement of existing standby generator with a 400KW generator.

Listed below are the changes to the permit as a result of this amendment:

1. Section 1.1, Permittee Information: Added Mohave County in facilities address and changed facility contact person and emergency phone number.
2. Section 2.1, Facility/Site Description: Changed the treatment process description to add new clarifiers, new headworks, flow meters, sludge holding tank, and sludge dewatering unit.
3. Section 2.2, Best Available Demonstrated Control Technology: Added that the facility is in 100 year flood plain and permittee conducted the drainage study and provided 2 feet berms around WRF to protect it from physical damage due to 100-year flood event and also the permittee will construct on-site retention basin.

4. Section 2.2.1, Engineering Design: Added references to past design reports and project engineers.

In addition, relevant permit language has been changed to conform to the current APP format.

## **II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY (BADCT)**

The Wishing Well WRF is an existing facility designed and proven to treat domestic sewage to tertiary treatment standards and Class B reclaimed water quality using an extended aeration system including filtration and disinfection. The facility meets the BADCT required for existing facilities. As denitrification was not included in the upgrades; therefore nitrogen related compounds are not limited at this facility. All effluent is disposed of off-site for reuse under a valid reclaimed water permit. The FIRM shows that Wishing Well WRF is located in Zone AO, which is within the 100-year flood plain; however base flood elevation was not determined. The permittee has conducted the drainage study and provided two-foot berms around the WRF to protect it from physical damage due to a 100-year flood event. Also, the permittee will construct an on-site retention basin.

## **III. HYDROGEOLOGIC SETTING**

The site is located over groundwater of the Lake Mohave Groundwater Basin. The depth to groundwater is approximately 60 feet below ground surface and the flow direction is toward the southwest.

## **IV. STORM WATER/SURFACE WATER CONSIDERATIONS**

The FIRM shows that Wishing Well WRF is located in Zone AO, which is within the 100-year flood plain where base flood elevation was not determined. The permittee has conducted the drainage study and provided 2 feet berms around the WRF to protect it from physical damage due to 100-year flood event. Also, the permittee will construct on-site retention basin.

## **V. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS**

The Wishing Well WRF treats the effluent to tertiary treatment standards. There is no on-site potential for infiltration to the groundwater. The effluent is transported off-site for reuse. The sludge is transported off-site for disposal. Due to these considerations, the facility is not expected to violate the Aquifer Water Quality Standards at the point of compliance.

### **Monitoring and Reporting Requirements**

To ensure that site operations do not violate Aquifer Water Quality Standards at the point of compliance, representative samples of the effluent shall be collected from the effluent pump station prior to delivery for reuse. The permittee shall monitor the effluent daily for flow rate and fecal coliform, quarterly for total nitrogen, nitrate-nitrite as N, and TKN, and annually for metals and volatile organic compounds (see Table IA in the permit). To ensure that site operations do not violate the Reclaimed Water Quality Standards for the beneficial use of Class B reclaimed water, the permittee shall monitor the reclaimed water daily for flow rate and fecal coliform (see Table IB in the permit). In addition, facility inspection and operational monitoring shall be performed on a routine basis (see Table III in the permit).

### **Point of Compliance (POC)**

The point of compliance is located at the southwest boundary of the WRF as follows:

POC #	POC Location	Latitude	Longitude
1	Southwest boundary of the WRF	34° 59' 05" N	114° 35' 24" W

## **VI. COMPLIANCE SCHEDULE**

There are no compliance schedule items required at permit issuance.

## **VII. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT**

### **Technical Capability**

The permit requires that appropriate documents be sealed by an Arizona registered geologist or professional engineer. This requirement is a part of an on-going demonstration of technical capability. The permittee is expected to maintain technical capability throughout the life of the facility.

### **Financial Capability**

Arizona-American Water Company demonstrated the financial responsibility necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The permittee is expected to maintain financial capability throughout the life of the facility.

ADEQ currently holds a surety bond for all facilities operated by Arizona-American Water Company which are currently regulated under individual Aquifer Protection Permits. The estimated dollar amount demonstrated for financial capability for the Wishing Well WRF is \$16,025.

### **Zoning Requirements**

The Wishing Well WRF has been properly zoned for the permitted use and the permittee has complied with applicable zoning ordinances in accordance with A.R.S. § 49-243(O) and A.A.C. R18-9-A201 (A) (B) (5).

## **VIII. ADMINISTRATIVE INFORMATION**

### **Public Notice (A.A.C. R18-9-108(A))**

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft permit or other significant action with respect to a permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit. This permit will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

**Public Comment Period (A.A.C. R18-9-109(A))**

The aquifer protection program rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

**Public Hearing (A.A.C R18-9-109(B))**

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

**IX. ADDITIONAL INFORMATION**

Additional information relating to this permit may be obtained from:

Arizona Department of Environmental Quality  
Water Quality Division - Groundwater Section - APP and Reuse Unit  
Attn: Swathi Kasanneni  
1110 West Washington Street, Mail Code 5415B-3  
Phoenix, Arizona 85007  
Phone: (602) 771-4577